



P.B.5818 - Patentlaan 2
2280 HV Rijswijk (ZH)
☎ +31 70 340 2040
TX 31651 epo nl
FAX +31 70 340 3016

Europäisches Patentamt

Zweigstelle
in Den Haag
Recherchen-
abteilung

European Patent Office

Branch at
The Hague
Search
division

Office européen des brevets

Département à
La Haye
Division de la
recherche

HOFFMANN - EITLE
Patent- und Rechtsanwälte
Arabellastrasse 4
81925 München
ALLEMAGNE

EINGEGANGEN

16. Aug. 2002

HOFFMANN • EITLE, MÜNCHEN
PATENTANWÄLTE RECHTSANWÄLTE

Datum/Date

16.08.02

Zeichen/Ref./Réf.

84 662 a/scho

Anmeldung Nr./Application No./Demande n°./Patent Nr./Patent No./Brevet n°.

00126524.8-2207-

Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire

MITSUBISHI DENKI KABUSHIKI KAISHA

COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

☒ abstract

☒ title

☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract:

15

REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





European Patent
Office

PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 45 of the European Patent Convention shall be considered, for the purposes of subsequent proceedings, as the European search report

EP 00 12 6524

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y,D	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 08, 29 August 1997 (1997-08-29) & JP 09 103052 A (MITSUBISHI ELECTRIC CORP), 15 April 1997 (1997-04-15) * abstract *	1,2,10	H02K3/34 H02K1/16 H02K3/28 H02K15/10
Y	US 5 986 375 A (KUSASE SHIN ET AL) 16 November 1999 (1999-11-16) * column 2, line 54 - column 4, line 45; figures 1-8 *	1,2,10	
A	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 08, 30 June 1999 (1999-06-30) & JP 11 069685 A (FUJI ELECTRIC CO LTD), 9 March 1999 (1999-03-09) * abstract *	1-10	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H02K
INCOMPLETE SEARCH			
<p>The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims.</p> <p>Claims searched completely :</p> <p>Claims searched incompletely :</p> <p>Claims not searched :</p> <p>Reason for the limitation of the search:</p> <p>see sheet C</p>			
Place of search		Date of completion of the search	Examiner
MUNICH		5 August 2002	Tangocci, A
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

2

EPO FORM 1503 03.82 (P04C07)



European Patent
Office

PARTIAL EUROPEAN SEARCH REPORT

Application Number
EP 00 12 6524

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.CI.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	PATENT ABSTRACTS OF JAPAN vol. 012, no. 476 (E-693), 13 December 1988 (1988-12-13) & JP 63 194543 A (HITACHI LTD), 11 August 1988 (1988-08-11) * abstract *	1-10	
Y	EP 0 881 742 A (DENSO CORP) 2 December 1998 (1998-12-02) * column 5, line 42 - column 7, line 9; figure 1 *	1,2	
Y	DE 196 33 399 A (SIEMENS AG) 26 February 1998 (1998-02-26) * the whole document *	1,2	TECHNICAL FIELDS SEARCHED (Int.CI.7)
A	EP 0 961 386 A (DENSO CORP) 1 December 1999 (1999-12-01) * abstract; figures 1,4 *	1-10	
Y	US 5 994 813 A (KUSASE SHIN ET AL) 30 November 1999 (1999-11-30) * column 2, line 32 - line 67; figures 1-4 *	1,2,10	
Y	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 04, 30 April 1999 (1999-04-30) & JP 11 018378 A (DENSO CORP), 22 January 1999 (1999-01-22) * abstract *	1,2,10	
A	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 11, 30 September 1999 (1999-09-30) & JP 11 164505 A (DENSO CORP), 18 June 1999 (1999-06-18) * abstract *	1-10	



European Patent
Office

PARTIAL EUROPEAN SEARCH REPORT

Application Number
EP 00 12 6524

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	US 4 102 040 A (RICH BERNARD J) 25 July 1978 (1978-07-25) * abstract; figures 1-3 *	1-10	
A	PATENT ABSTRACTS OF JAPAN vol. 011, no. 127 (E-501), 21 April 1987 (1987-04-21) & JP 61 273153 A (FUJITSU GENERAL LTD), 3 December 1986 (1986-12-03) * abstract *	1-10	
A	PATENT ABSTRACTS OF JAPAN vol. 009, no. 131 (E-319), 6 June 1985 (1985-06-06) & JP 60 016164 A (MITSUBISHI DENKI KK), 26 January 1985 (1985-01-26) * abstract *	1-10	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)



European Patent
Office

INCOMPLETE SEARCH
SHEET C

Application Number
EP 00 12 6524

Claim(s) searched completely:
2-10

Claim(s) searched incompletely:
1

Reason for the limitation of the search:

The term "long" in relation to the strands of wire (30) in claim 1 is a relative term in the sense of the Guidelines C III 4.5, and is not clear, thus not allowable. The "long strands of wire" have been considered for the search as continuous or single strands of wire. Further obscurities: Claims 2 and 3 are method claims containing a reference to claim 1 which is an apparatus (product) claim, thus of a different category: therefore claims 2 and 3 are independent claims referring to a claim of a different category, Guidelines C III first six lines of par. 3.7a. Now, said claims disclose only one step of manufacture, which step concerns only the insulating member (19, 72), which means that not all the features of the product result from the processes. Reference is made to the Guidelines, C III, last twelve lines of par. 3.7a.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 12 6524

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

05-08-2002

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
JP 09103052	A	15-04-1997	US	6317962 B1	20-11-2001
US 5986375	A	16-11-1999	JP	11164519 A	18-06-1999
			CA	2238504 A1	26-11-1998
			DE	69803217 D1	21-02-2002
			DE	69803813 D1	21-03-2002
			DE	69803900 D1	28-03-2002
			EP	1026810 A1	09-08-2000
			EP	1179881 A1	13-02-2002
			EP	1227567 A2	31-07-2002
			EP	0881747 A2	02-12-1998
			EP	0881742 A2	02-12-1998
			EP	0881749 A2	02-12-1998
			EP	0881750 A2	02-12-1998
			EP	0881745 A2	02-12-1998
			EP	0881746 A2	02-12-1998
			EP	0881751 A2	02-12-1998
			EP	0881743 A2	02-12-1998
			EP	0881753 A2	02-12-1998
			JP	11164505 A	18-06-1999
			JP	11164506 A	18-06-1999
			JP	11346448 A	14-12-1999
			US	5936326 A	10-08-1999
			US	5982068 A	09-11-1999
			US	6051906 A	18-04-2000
			US	6144136 A	07-11-2000
			US	6181045 B1	30-01-2001
JP 11069685	A	09-03-1999	NONE		
JP 63194543	A	11-08-1988	DE	3803752 A1	25-08-1988
			FR	2610770 A1	12-08-1988
			GB	2202170 A	21-09-1988
EP 0881742	A	02-12-1998	WO	9854822 A1	03-12-1998
			JP	11164504 A	18-06-1999
			AU	3686799 A	02-09-1999
			AU	4222897 A	30-12-1998
			AU	710990 B2	07-10-1999
			AU	5829198 A	03-12-1998
			BR	9801214 A	13-07-1999
			BR	9801695 A	05-10-1999
			CA	2231123 A1	26-11-1998
			CA	2238504 A1	26-11-1998
			CA	2238600 A1	26-11-1998
			CN	1202028 A , B	16-12-1998

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 12 6524

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

05-08-2002

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0881742	A		CN 1208277 A , B	17-02-1999
			CN 1208985 A	24-02-1999
			CN 1200591 A	02-12-1998
			DE 69800498 D1	01-03-2001
			DE 69800498 T2	06-09-2001
			DE 69801259 D1	06-09-2001
			DE 69801259 T2	13-06-2002
			DE 69803217 D1	21-02-2002
			DE 69803813 D1	21-03-2002
			DE 69803900 D1	28-03-2002
			EP 1026810 A1	09-08-2000
			EP 1179881 A1	13-02-2002
			EP 1227567 A2	31-07-2002
			EP 0881752 A1	02-12-1998
			EP 0881756 A1	02-12-1998
			EP 0881747 A2	02-12-1998
			EP 0881742 A2	02-12-1998
			EP 0881744 A2	02-12-1998
			EP 0881748 A2	02-12-1998
			EP 0881749 A2	02-12-1998
			EP 0881750 A2	02-12-1998
			EP 0881745 A2	02-12-1998
			EP 0881746 A2	02-12-1998
			EP 0881751 A2	02-12-1998
			EP 0881743 A2	02-12-1998
			EP 0881753 A2	02-12-1998
			ES 2154065 T3	16-03-2001
			WO 9854823 A1	03-12-1998
			JP 2000069729 A	03-03-2000
			US 5998903 A	07-12-1999
			US 6097130 A	01-08-2000
			US 5936326 A	10-08-1999
			US 5952749 A	14-09-1999
			US 6011332 A	04-01-2000
			US 5982068 A	09-11-1999
			US 6291918 B1	18-09-2001
			US 6124660 A	26-09-2000
			US 6137201 A	24-10-2000
DE 19633399	A	26-02-1998	DE 19633399 A1	26-02-1998
			DE 29623073 U1	16-10-1997
EP 0961386	A	01-12-1999	JP 2000014068 A	14-01-2000
			EP 0961384 A1	01-12-1999
			EP 0961385 A1	01-12-1999
			EP 0961386 A1	01-12-1999

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 12 6524

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

05-08-2002

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
EP 0961386	A		JP	2000050553 A	18-02-2000
			JP	2002165421 A	07-06-2002
			US	6147430 A	14-11-2000
			US	6208060 B1	27-03-2001
			US	6335583 B1	01-01-2002
			EP	0967709 A1	29-12-1999
			US	6242836 B1	05-06-2001
US 5994813	A	30-11-1999	BR	9801695 A	05-10-1999
			CA	2238600 A1	26-11-1998
			DE	69803217 D1	21-02-2002
			DE	69803745 D1	21-03-2002
			DE	69803813 D1	21-03-2002
			DE	69803900 D1	28-03-2002
			EP	1026810 A1	09-08-2000
			EP	0881749 A2	02-12-1998
			EP	0881750 A2	02-12-1998
			EP	0881745 A2	02-12-1998
			EP	0881746 A2	02-12-1998
			EP	0881751 A2	02-12-1998
			EP	0881753 A2	02-12-1998
			EP	0923187 A2	16-06-1999
			JP	11234933 A	27-08-1999
			US	6181043 B1	30-01-2001
JP 11018378	A	22-01-1999	NONE		
JP 11164505	A	18-06-1999	JP	11164500 A	18-06-1999
			JP	11164504 A	18-06-1999
			JP	11075347 A	16-03-1999
			JP	11075346 A	16-03-1999
			JP	11098788 A	09-04-1999
			JP	11075334 A	16-03-1999
			JP	11164506 A	18-06-1999
			JP	11164519 A	18-06-1999
			JP	2927288 B2	28-07-1999
			JP	11155270 A	08-06-1999
			JP	11234933 A	27-08-1999
			JP	3271582 B2	02-04-2002
			JP	11187599 A	09-07-1999
			JP	11191946 A	13-07-1999
			CA	2238504 A1	26-11-1998
			DE	69803217 D1	21-02-2002
			DE	69803813 D1	21-03-2002
			DE	69803900 D1	28-03-2002
			EP	1026810 A1	09-08-2000

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 12 6524

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

05-08-2002

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 11164505 A		EP 1179881 A1	13-02-2002
		EP 1227567 A2	31-07-2002
		EP 0881747 A2	02-12-1998
		EP 0881742 A2	02-12-1998
		EP 0881749 A2	02-12-1998
		EP 0881750 A2	02-12-1998
		EP 0881745 A2	02-12-1998
		EP 0881746 A2	02-12-1998
		EP 0881751 A2	02-12-1998
		EP 0881743 A2	02-12-1998
		EP 0881753 A2	02-12-1998
		JP 11346448 A	14-12-1999
		US 5936326 A	10-08-1999
		US 5986375 A	16-11-1999
		US 5982068 A	09-11-1999
		US 6051906 A	18-04-2000
		US 6144136 A	07-11-2000
		US 6181045 B1	30-01-2001
US 4102040 A	25-07-1978	FR 2316776 A1	28-01-1977
		FR 2341976 A2	16-09-1977
		FR 2342576 A1	23-09-1977
		BR 7604385 A	26-07-1977
		DE 2629532 A1	27-01-1977
		ES 449497 A1	16-08-1977
		GB 1546911 A	31-05-1979
		IT 1074246 B	17-04-1985
JP 61273153 A	03-12-1986	JP 2001934 C	20-12-1995
		JP 7016296 B	22-02-1995
JP 60016164 A	26-01-1985	JP 1682196 C	31-07-1992
		JP 3045621 B	11-07-1991